

(k) *Workmanship.* Workmanship shall be first class in all respects, and jackknives shall be free from defects which may affect their serviceability.

§ 160.043-5 Inspections and tests.

(a) *General.* Jackknives are not ordinarily subjected to regularly scheduled factory inspections, but the Commander of the Coast Guard District in which they are manufactured may detail an inspector at any time to places where jackknives are manufactured to check materials and construction methods, and to conduct such tests as may be required to satisfy himself that jackknives are being manufactured in compliance with the requirements of this specification and the manufacturer's plans and specifications as approved by the Commandant. The manufacturer shall admit the inspector to his plant and shall provide a suitable place and the necessary apparatus for use of the inspector in conducting tests at the place of manufacture.

(b) *Hardness test.* Hardness of the blade, can opener, and spring metal shall be determined in accordance with the Rockwell method as described in Federal Specification QQ-M-151. Hardness impressions shall be made at locations representing the cutting edges and surfaces subject to wear, and they shall fall within the ranges set forth in § 160.043-3(a).

(c) *Bending and drop tests.* With all of the blade of the knife except the tang clamped in vertical jaws so that the handle is in a horizontal position, a downward load of 15 pounds shall be suspended from the lanyard and allowed to hang for a period of 5 minutes. The knife shall then be turned over, and the test repeated with the can opener in the jaws. The knife shall then be dropped on its side from a height of 8 feet onto a concrete floor. Both the blade and the can opener shall open and close properly, and the knife shall show no other evidence of failure at the conclusion of these tests.

(d) *Cutting test.* The knife shall be used to cut various nonmetallic objects, including at least 10 shavings from a strip of oak or other hardwood, and to open various rectangular and circular cans, and shall show no noticeable loss in cutting ability.

§ 160.043-6 Marking and packing.

(a) *General.* Jackknives specified by this subpart shall be stamped or otherwise permanently and legibly marked on the tang of the blade with the manufacturer's name or with a trade mark of such known character that the source of manufacture may be readily determined, and with the manufacturer's type or size designation.

(b) *Instructions for can opener.* With each jackknife the manufacturer shall supply instructions, complete with an illustration, indicating the proper method for using the can opener.

(c) *Packing.* Each jackknife, complete with lanyard attached, shall be packed in a heat-sealed bag of waterproof vinyl resin or polyethylene film not less than 0.004 inch in thickness. The bag shall be marked in a clear and legible manner with the Coast Guard approval number, the name and address of the manufacturer, and in letters not less than ¼ inch in height with the words, "JACKKNIFE (WITH CAN OPENER)". The instructions for use of the can opener as required by paragraph (b) of this section may also be printed on the bag.

Subpart 160.044—Pumps, Bilge, Lifeboat, for Merchant Vessels

SOURCE: CGFR 50-30, 16 FR 1085, Feb. 6, 1951, unless otherwise noted.

§ 160.044-1 Applicable specifications.

(a) There are no other specifications applicable to this subpart.

(b) [Reserved]

§ 160.044-2 Types and sizes.

(a) *Type.* Bilge pumps covered by this subpart shall be manually operated, either oscillating, wing type, or full rotary type, with mountings so arranged as to permit attachment to a thwart or other part of the lifeboat structure without interference with the seating arrangement. Alternate types, arrangements or materials, which meet the performance requirements of this subpart will be given special consideration.

(b) *Sizes.* Bilge pumps covered by this subpart shall be of three sizes, having capacities as follows:

(1) *Size No. 1.* 5 gallons per minute at 65 double strokes,¹ for lifeboats up to 330 cubic feet capacity.²

(2) *Size No. 2.* 6 gallons per minute at 50 double strokes, for lifeboats from 330 cubic feet up to 700 cubic feet capacity.

(3) *Size No. 3.* 15 gallons per minute at 50 double strokes, for lifeboats of 700 cubic feet or more capacity.

§ 160.044-3 General requirements.

(a) Bilge pumps shall be of rugged construction, of first class workmanship in every respect, and free from any defects affecting serviceability. Where a choice of materials is permitted, the materials used shall be of good quality and suitable for the purpose intended, and shall be corrosion-resistant or protected against corrosion by acceptable means, except that parts subject to wear shall not depend upon coatings for corrosion resistance.

(b) Bilge pumps covered by this subpart shall be capable of operating against a head pressure of 20 pounds per square inch when tested in accordance with § 160.044-4(c).

(c) The bilge pump body shall be of bronze and shall be provided with a cover plate or plates, attached by means of wing nuts at least 1¼ inches long, on not more than 6 studs, or by means of a suitable bayonet type joint, so as to be readily removable for inspection or cleaning.

(d) The operating lever shall have a steel or bronze core through its entire length, but for comfort may have a gripping surface of wood or other suitable material. The lever shall be removable and shall be attached to the pump shaft which is to be square ended, by means of a set screw with 1¼-inch wings, and further shall be connected to the pump body or shaft end by a retaining chain to prevent loss.

(e) The suction line shall be fitted with an intake check valve and a suitable strainer. The strainer shall be re-

movable for cleaning without the use of tools. The suction line shall contain no hose or fittings subject to collapsing when the pump is in service.

(f) Suction and discharge outlets shall be not less than 1 inch inside diameter for pump sizes Nos. 1 and 2, and not less than 1¼ inches inside diameter for pump size No. 3. Discharge outlets shall be provided with a tee of cast bronze or other corrosion-resistant material, with a removable plug at the top for priming, the plug to have a wing arrangement for removal by hand, and be secured to the tee by a retaining chain. The bottom of the tee shall have pipe threads to fit the discharge outlet of the pump, and the discharge portion of the tee shall be a plain clamp type male hose connection, with inside diameter not less than that of the pump discharge opening.

§ 160.044-4 Inspection and tests.

(a) *Capacity.* The bilge pump being tested shall be set up over a source of water for operation with all the required fittings and connections, the set-up to simulate an installation in a lifeboat. The bilge pump shall be operated at the standard speed specified for its size, and the flow of water measured. The amount of water discharged shall not be less than that required by § 160.044-2(b).

(b) *Head pressure.* After the successful completion of the test outlined in paragraph (b) of this section, a pressure gage capable of registering 20 pounds per square inch, and a variable restriction, such as a nozzle, valve, etc., shall be fitted in the discharge line. The pump shall be put in operation with the discharge line open, and then the restriction shall be gradually closed until the pressure builds up to at least 20 pounds per square inch. This pressure shall be maintained for at least 15 seconds, after which the pump shall be disassembled and inspected. No destruction or deformation of parts sufficient to affect the serviceability of the pump shall be permitted as a result of this test.

(c) *Operating lever.* With the pump firmly secured in such a position that both the shaft and operating lever are in a horizontal position, apply a downward load of 200 pounds for a period of

¹A double stroke is a complete cycle from one extreme to the other and back again to the original starting point, or, for rotary type, one complete revolution.

²The capacity of a lifeboat for determining the size of the bilge pump shall be 0.6 times the product of the length, breadth, and depth of the lifeboat, in feet.